

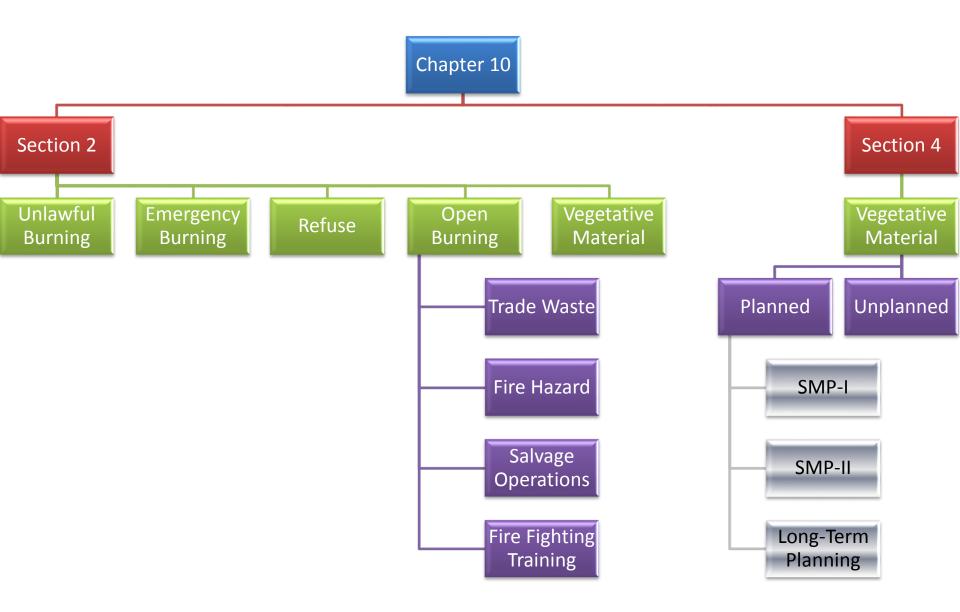
SMP Contact Information

- Please send all smoke management correspondence to:
 - smoke.management@wyo.gov
- Primary Contact:
 - Joe Smith
 - -(307)777-6126
 - joe.smith@wyo.gov
- Secondary Contact:
 - Brian Bohlmann, P.E., EI & RH Supervisor
 - -(307)777-6993
 - brian.bohlmann@wyo.gov
- Emergency Contact:
 - Darla Potter, AQRM Program Manager
 - -(307)777-7380
 - darla.potter@wyo.gov

Outline

- WAQSR Ch. 10 Regulations
 - Open Burning under Ch. 10, Section 2
 - Prescribed Burning (SMP-I, II) under Ch. 10, Section
 - Unplanned Events under Ch. 10, Section 4
 - Long Term Planning under Ch. 10, Section 4
- Burn statistics from 2012, 2013 and 2014
- Emissions from fires in 2012 and 2013
- UGRB Ozone Non-Attainment Area
- Discussion Topics
- Important websites

WAQSR Ch. 10 Structure



WAQSR Ch. 10, Section 2



Vegetative Material

• "Vegetative material" means untreated or unprocessed wood, including, but not limited to, trees, tree stumps, tree limbs, bark, chips, duff, grass, grass clippings, leaves, conifer needles, bushes, shrubs, weeds, clippings from bushes and shrubs, and agricultural plant residue.

Trade Wastes

"Trade wastes shall mean solid, liquid, or gaseous material resulting from construction or the prosecution or any business, trade or industry, or any demolition operation including but not limited to wood, plastics, cartons, grease, oil, chemicals and cinders and excluding vegetative material and refuse."

Prohibited Materials

"Prohibited materials" means substances including, but not limited to; natural or synthetic rubber products, including tires; waste petroleum products, such as oil or used oil filters; insulated wire; plastic products, including polyvinyl chloride ("PVC") pipe, tubing and connectors; tar, asphalt, asphalt shingles, or tar paper; railroad ties; wood, wood waste, or lumber that is painted or chemically treated; explosives or ammunition; batteries; hazardous waste products; asbestos or asbestos containing materials; or materials which cause dense smoke discharges, excluding refuse and flaring associated with oil and gas well testing, completions and well workovers."

Unlawful Burning

"No person shall burn prohibited materials using an open burning method, except as may be authorized by permit."

Emergency Burning

"For purposes of eliminating a potential or an imminent danger to public health, safety, or the environment, the Administrator of the Division may, on a case-by-case basis, waive any and all requirements of this Section."

Refuse Burning

"No person shall dispose of refuse by open burning, or cause, suffer, allow or permit open burning of refuse, except open burning of refuse associated with dwelling units, farmsteads, or ranch headquarters generated on those same premises, when all of the following requirements are met."

- Refuse Burning Restrictions
 - Nearest population is at least 500 feet away from the refuse burn.
 - The refuse burn is conducted during the daytime hours.
 - The person conducting the open burn shall attend and observe the refuse burn periodically to determine the dispersion, direction, and impacts of the smoke.

Open Burning

"No person or organization shall conduct or cause or permit open burning for the disposal of trade wastes, for a salvage operation, for the destruction of fire hazards if so designated by a jurisdictional fire authority, or for fire fighter training, except when it can be shown by a person or organization that such open burning is absolutely necessary and in the public interest. Any person or organization intending to engage in such open burning shall file a request to do so with the Division, on a form provided by the Division. Upon approval of the request by the Division, the person or organization may proceed with the open burn, when all of the following requirements are met."

Open Burning Requirements

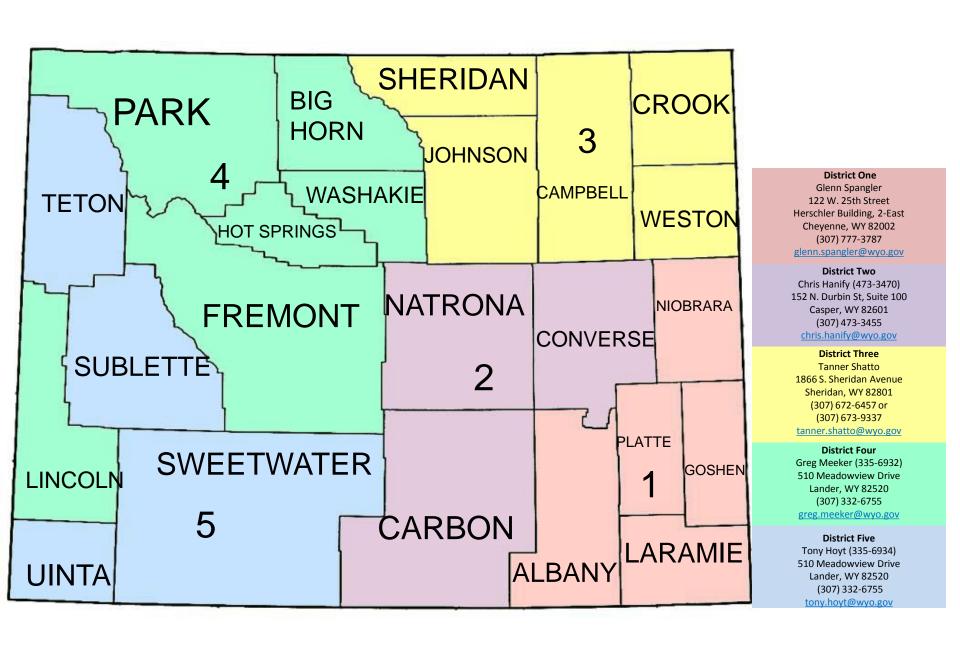
- Remove all prohibited materials unless the permit allows for it.
- Notify the Division prior to the ignition of the open burn, in accordance with the notification process approved by the Administrator of the Division.
- Prior to ignition, notify the jurisdictional fire authority(ies) responsible for the geographic area of the open burn.
- Attend and observe the open burn periodically to determine smoke dispersion and impacts.

Open Burn Form

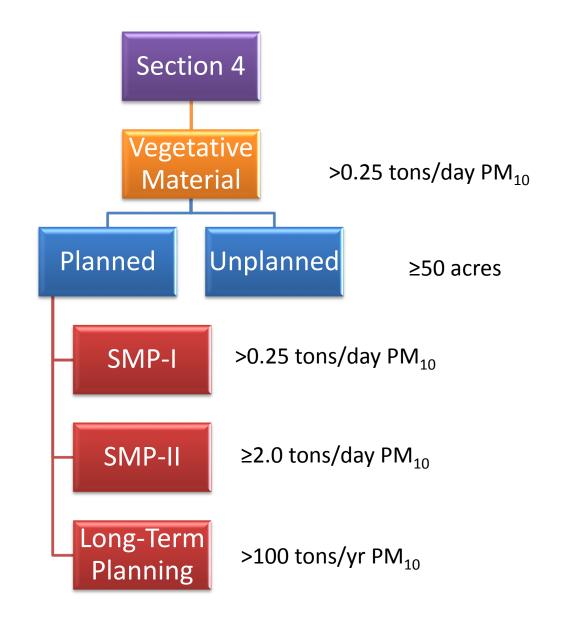
STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Open Burn Request Form Fire Fighting Training, Fire Hazard, Trade Waste, Salvage Operation

CONTACT INFORMATION NAME ADDRESS CITY STATE AGENCY/COMPANY (IF APPLICABLE)	PHONE FAX E-MAIL
BURN INFORMATION LOCATION: COUNTY ADDRESS LEGAL: SECTIONTO NEAREST POPULATION BURN SCHEDULE	OWNSHIP RANGE
COMPOSITION & QUANTITY OF MATERIAL	
BURN TYPE: FIRE FIGHTING TRAINING HAZARI * SPECIFY DESIGNATING JURISDICTIONAL FIRE AUTI IF PROHIBITED MATERIALS HAVE NOT BEEN REMOVED THEY SHOULD BE ALLOWED TO BE BURNED.	HORITY
To show that open burning is necessary and in why no disposal method other than open burn	,
COMMENTS	
Please note that approval of the open burn request conducting the open burn. Prior to igniting the open burn: While conducting the open burn:	Notify the Air Quality Division Notify the Jurisdictional Fire Authority(ies)
Signature	Date



WAQSR Ch. 10, Sec. 4



Type of Regulation

- Permit-By-Rule
 - Reduce administrative burden on burners and WDEQ-AQD
 - Promote equity, clarity and consistency
 - Provide predictability and enforceability
 - Specify circumstances under which a burn is allowed
 - Permit is assumed

Regulatory Status and Applicability

- http://soswy.state.wy.us/Rules/default.aspx
 - Search by Agency (Dept. of Environmental Quality),
 Program (Air Quality), Rule Type (Current Rules and Regulations) and Chapter # (10)
- (a) Effective Date: For planned burns and unplanned fire events beginning on or after January 1, 2005.
- (c) Applicability:
 - (i) Planned burn with PM₁₀ emissions >0.25 tons/day
 - (ii) Unplanned fire events that exceed 50 acres

Regulatory Status and Applicability

- (d) Materials allowed to be burned. Only vegetative material shall be burned.
- (f) SMP-I: Planned burn with PM₁₀ emissions between 0.25-2.0 tons/day.
- (g) SMP-II: Planned burn with PM₁₀ emissions at or above 2.0 tons/day.
- (h) Long-term planning:
 - Total planned burn projects are projected to generate PM₁₀ emissions greater than 100 tons/yr.
 - Managers must submit a written report to the AQD Administrator by January 31 every third year starting in 2005 (2008, 2011, **2014**...).

Requirements Summary of Section 4						
REQUIREMENT	PLANNED BU	PLANNED BURN PROJECT				
	SMP-I	SMP-II				
Applicability	Burner	Burner	Jurisdictional Fire Authority*			
	0.25 - 2.0 tons/day PM_{10}	≥2.0 tons/day PM ₁₀	≥50 acres			
DEQ Registration	Not required	Form by Jan. 31, but at least 2 weeks prior	Info available via alternate source			
DEQ Notification	1 hour prior to ignition	By 10:00 a.m. on the business day prior to ignition	Info available via alternate source			
DEQ Modification	Not applicable	Not applicable Required				
DEQ Reporting	Six (6) weeks a	fter completion	By December 31			
Smoke Management Education	Not required	Required	Required, managed only			

Consider (rationale for NOT

using)

Not Applicable

Not required

Alternatives to Burning

Requirements Summary of Section 4

REQUIREMENT	PLANNED BU	UNPLANNED FIRE	
	SMP-I	SMP-II	
Emission Reduction Techniques	Not required	At least one and as many as feasible	Not applicable
Public Information	Notify Jurisdictional fire authorities AND populations within 0.5 mile unless low density area	Notify Jurisdictional fire authorities AND populations within 10 miles	Notify Jurisdictional fire authorities AND populations within 10 miles
Smoke Dispersion	Burn during daytime hours. Slight breeze and wind direction when no population 0.5 mile downwind	Ventilation category: "good" or better OR "fair" and no population within 10 miles	Not applicable
Monitoring	Attend and observe periodically	Visual Monitoring Log or photos required. Case-by- case for populations and nonattainment areas within 10 miles downwind and Class I areas within 30 miles downwind	Visual Monitoring Log or photos required. Case-by- case for populations and nonattainment areas within 10 miles downwind and Class I areas within 30 miles downwind

^{*}Volunteer fire organizations' only requirements in DEQ reporting.

Requirements Summary of Section 4

REQUIREMENT	PLANNED BURN PROJECT			
	LONG-TERM PLANNING			
Applicability	Burner and/or Land Manager Total Planned Burn Projects >100 tons/yr PM ₁₀			
Long-Term Planning Report	By January 31 every third year starting in 2005 (2005, 2008, 2011, 2014 ,)			
Long-Term Burn Estimates	Estimates for the next 3 years for each planned burn project: location, burn area or pile volume, vegetation type, type of burn			
Alternatives to Burning	Considered and utilized during the previous 3 years AND planned for the next 3 years: location and area of treatment(s), vegetation type(s), specific technique(s)			

Open Burn, SMP-I, SMP-II, or Long-Term Planning Equivalencies by Veg Type

Vegetation Type	0.25 Ton PM ₁₀ Section 2/Section 4	2 Tons PM ₁₀ SMP-I/SMP-II	100 Tons PM ₁₀ Long Term Planning
Field Crops	16 acres	130 acres	6,500 acres
Shrub Land	8 acres	68 acres	3,400 acres
Forest	6 acres	46 acres	2,300 acres
Grass	25 acres	200 acres	10,000 acres
Weeds (ditches)	12 acres	100 acres	5,000 acres
Shrub / Forest piles	1,250 cubic feet	10,000 cubic feet	500,000 cubic feet

http://deq.state.wy.us/aqd/SmokeMan/SMPDetermineStatus11_04.pdf

SMP-I Requirement Checklist Between 0.25-2.0 tons/day PM₁₀

• Prior to igniting:

- Verify your SMP level
- Notify the DEQ-AQD (1 hour before)
- Obtain smoke dispersion waiver (if needed)
- Notify the Jurisdictional Fire Authority(ies)
- Notify population(s) within 0.5 mile of the burn, unless area of low population density (1 dwelling unit per 10 acres)

• While conducting:

- Attend and observe periodically
- Burn during daytime hours when there is a slight breeze and there is no population within 0.5 mile downwind

• After completion:

- Within 6 weeks, submit a completed post burn reporting form
- Other:
 - If the total planned burn projects total exceeds 100 tons/yr PM₁₀, submit a long-term planning form

SMP-I Notification Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-I Notification Form

Notification information may be submitted by phone, or fax or email.

Use of this form is optional.

NAME ADDRES CITY STATE	CT INFORMATION: SS Z/COMPANY (IF APPLIC	ZIP	PHONE	
LOCAT	ION:			
	COUNTY	ELEVA	ATION (FEET)	
		CTION TOWNSHIP	RA	NGE
	LATITUDE	LONGITUDE		DATUM
	UTM: ZONE	EEASTNO	ORTH	DATUM
NEARE	ST POPULATION: (Vo	DLUNTARY)		
DAILY	BURN INFORMATION	: (Voluntary)		
	DATE(S)	VEGETATION TYPE(S)	AREA (ACRES)	PILE VOL. (CU-FT)
	(MONTH/DAY/YR)		Max. Possible	Max. Possible
DAY 1				
DAY 2				
DAY 3				
DAY 4				
DAY 5				
DAY 6				
DAY 7				
Сомм	ENTS			
This for		the WDEQ-AQD no later than one h	hour prior to igniti	ion.

SMP-I Notification November 2004 1 of 1

SMP-I Smoke Dispersion Waiver Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-I Smoke Dispersion Waiver Form

NAME ADDRESS	NFORMATION		PHONE	
CITY STATE AGENCY/CO	MPANY (IF APPLI	ZIP CABLE)		
BURN NAME			ID# To Be A	Assigned by WDEQ
LOCATION:	COUNTY	ELEVA	ATION (FEET) RA	
		ECTION TOWNSHIP	RA	NGE
	LATITUDE	LONGITUDE		DATUM
	UTM: ZON	E EAST NO	ORTH	DATUM
NEAREST PO	DPULATION			
DAILY BURN	INFORMATION			
	DATE(S)	VEGETATION TYPE(S)	AREA (ACRES)	PILE VOL. (CU-FT)
	(ONTH/DAY/YR)		Max. Possible	Max. Possible
DAY 1				
DAY 2				
DAY 3				
DAY 4				
DAY 5				
DAY 6				
DAY 7				
WAIVER RE		_		
	TIME OF DAY	STATE THE CIRCUMSTANCES THAT		TME BURNING AND
		INDICATE THE PLANNED TIME OF I		
	WIND SPEED	STATE THE CIRCUMSTANCES THAT	•	G WHEN THERE IS
Was D		NOT AT LEAST A SLIGHT BREEZE.		
	IRECTION AND POPULATION	STATE THE CIRCUMSTANCES THAT POPULATION IS WITHIN 0.5 MILE O		
DISTANCE TO	POPULATION	DOWNWIND TRAJECTORY, STATE		
		TO POPULATION.	THE WIND DIRECT	ION AND DISTANCE
D	L		00D Cr. 10 Cr.	4/8/200
DEMONSTRA	IION THAT A WA	IVER SHOULD BE GRANTED FROM WA	QSK CH. 10, SEC.	4(I)(Ш) :

COMMENTS			
Please note that approval prior to igniting the plant		n Waiver must be granted by the WDE(2-AQD
SIGNATURE		0 am one business day prior to ignition DATE	
If SMP-I Smoke Dispersion Waiver	Form is submitted electronically, the elect	ronic signature will be attributed to the sender.	
	To be Completed by	WDEQ Only	
SMP-I SD WAIVER CONDITIONS	APPROVED	NOT APPROVED	
APPROVED BY		DATE	
	To be Completed by	WDEQ Only	

SMP-I Smoke Dispersion Wavier November 2004 1 of 2 SMP-I Smoke Dispersion Wavier November 2004 2 of 2

SMP-I Post-Burn Report Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-I Post Burn Reporting Form

CONTACT INFORM NAME ADDRESS CITY STATE AGENCY/COMPANY		ZIP	E-M	AIL _		ONE		
LEGA LA UTM LAND OWNERSHIP: NEAREST POPULAT	TITUDE ZONE FEDE	EAST _	TOWN LONGIT	NSHIP UDE N	ORTH	(FEET)	NGE D.	ATUM PRIVATE
FOR FOREST, GRAS DAILY BURN INFOR	TRE NAME ES): NAME LIC ON: AR SLAND, & SE MATION:	EA OF LOW POI	PULATION DE	ENSIT RES	Y WITH	DATE/TIN DATE IN 0.5-MILE F	ME TE RAD MA	AINTENANCE
DATE (MONTH/DAY/YR)	VEGETAT (SEE	ION TYPE LIST)	PILE VOL. (CU-FT)	Ac	CRES	LOADING (TONS/ACR		PERCENT CONSUMPTION
SMOKE DISPERSION DATE (MONTH/DAY/YR)	TIME OF DAY	WIND SPEED	WIND DIRECTI)	DIS	DATE APPROV STANCE TO PULATION	VED	VENT. CAT. (OPTION)

AIR QUALITY MONITORING ATTENDED AND OBSERV NUMBER OF ATTENDED AND OBSERV OPTION TO ATTEND AND O	VED PERIODICALL' F TIMES VED AT ALL <u>TIME</u> S	FREQUEN	_	ENTIFY:	
DOCUMENTATION ATT		0011000120 110012111	,		
SMOKE MANAGEMENT EDUCATION: (VOLUNTARY) WDEQ-AQD SMOKE MANAGEMENT EDUCATION MATERIAL REVIEWED ON TRAINING PROGRAM COMPLETED ON					
EMISSION REDUCTION TECH	HNIQUES: (VOLUM			_	
VEGETATION TYPE (SEE LIST)		MISSION REDUCTION TEC (SEE LIST)	CHNIQUE(S)		ACRES
COMMENTS					
This form shall be submitted	no later than six w	eeks following planned b		ompletion	1.
SIGNATURE If SMP-I Post Burn Reporting Form is st	whatted electronically, t	he electronic signature will be atti	DATE shuted to the sende		
if there is on their supering	tomata encountary, -	ac electronic algorithms with the min	TOURS TO THE COURSE	a.	
		TATION TYPE LIST			
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Forest: heavy dead & down Thinning Unit: not piled wit	dead & down n with brush th red needles	Ponderosa Pine: open Ponderosa Pine: close Juniper		(Corn Hay
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Forest: heavy dead & down Thinning Unit not piled to the Market Logging Slash: mod. acct Logging Slash: Dies: Logging Slash Piles: Logging Slash Piles: trac Logging Slash Pil	lead & down n with brush th red needles umulations arcut : hand ctor, clean ctor, dirty landing EMISSION REI Redu Mechan Fire Biomass: E Biomass: E Biomass: H Incorpo Reduce F High Moisture Moist Li Burn bef	Ponderosa Pine: open Ponderosa Pine: close Juniper Sagebrush Mountain Bruss Short Grasses Tall Grasses Weeds DUCTION TECHNIQUE LIST Ce Five Lload inical Removal itical Processing wood Sales Electric Generation ass Utilization Ingulates ration into Soil hel Consumption in Large Woody Fuels	Increase C Burn P Burn P R Air Cu (WAQSK Ch Aerial Ign Into-the- Mobil Maintainin	Seeds Seed Seed Seed Seed Seed Seed Seed	Com Hay Dats S: Altifalia S: Altifalia S: Grass Wheat CRP Citches Efficiency Grows S S S P p p re rators Intensity

SMP-II Requirement Checklist equal or greater than 2.0 tons/day PM₁₀

Prior to igniting:

- Verify your SMP level
- Review Smoke Management Educational Materials
- Submit SMP-II Registration Form to DEQ-AQD (2 weeks prior)
- Notify the DEQ-AQD (24 hours prior)
- Obtain Emission Reduction Technique Waiver (if necessary, 24 hours prior on weekday)
- Obtain Smoke Dispersion Waiver (if necessary, 24 hours prior on weekday)
- Notify the Jurisdictional Fire Authority(ies)
- Notify Population(s) within 10 miles of the burn
- If required by DEQ-AQD, modify the planned burn project

While conducting:

- Do not exceed the maximum daily burn area or daily pile volume
- Burn when ventilation category is "Good" or better OR "Fair" with no population within 10 miles downwind
- Utilize at least one emission reduction technique
- Conduct and document visual monitoring
- If required by DEQ-AQD, conduct and document ambient air quality and/or visibility monitoring
- If required by DEQ-AQD, modify the planned burn project

• After completion:

- Within 6 weeks, submit a completed post burn reporting form (with photos or visual monitoring log)
- Other:
 - If the total planned burn projects total exceeds 100 tons/yr PM₁₀, submit a long-term planning form

http://deq.state.wy.us/aqd/SmokeMan/SMPChecklists11_04.pdf

SMP-II Registration Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-II Registration Form

CONTACT INFORMATION: NAME			PHONE		
ADDRESS		737			
CITY	7	E-MA	ш		
STATE AGENCY/COMPANY (IF APPLICATE)	ZIP		_		
AGENCY/COMPANY (IF APPLICAL					
BURN NAME					ed by WDEQ
LOCATION: COUNTY		E	LEVATION (FEE	r)	
LEGAL: SECT	ION	TOWNS	SHIP	RANGE	
LATITUDE		Longitu	DE	DAT	UM
UTM: ZONE	EAST		NORTH	DAT	UM
LAND OWNERSHIP: FEDI	ERAL	STATE	MUNICIPA	T 🔲	PRIVATE
SENSITIVE RECEPTORS: P	OPULATION(S)		ATTAINMENT	CLASS	
	W/I 10 MI.	AREA	(S) W/I 10 MI.	1	W/I 30 MI.
JURISDICTIONAL FIRE AUTHOR					
FOR FOREST, GRASSLAND, & S	HRUB LAND ON	NLY:	RESTORATION	MAIN	TENANCE
TIME OF YEAR: DEC. – FE	B. MAR	RMAY	JUNE -AUG	. See	PT. – NOV.
TOTALS: ACREAGE	PILE VO	LUME (CU-FT)	1	DURATION (D.	AYS)
BURN SIZE & FUEL LOADING B	V VEGETATION	TYPE:			
VEGETATION ACE			GETATION	ACRES	TONS/ACRE
	OR CU-	-FT		l	OR CU-FT
Ponderosa Pine: open		Ponder	osa Pine:		
canopy		closed	canopy		
Lodgepole Pine / Fir:			heavy dead &		
little dead & down			vith brush		
Thinning Unit: not			g Slash: mod.	l	
piled with red needles			ılations		
Logging Slash:			g Slash Piles:	l	
clearcut		hand	61 1 B3		
Logging Slash Piles:	1		g Slash Piles:	l	
tractor, clean		tractor,		 	
Logging Slash Piles: landing	ı	Juniper	ī.		
Sagebrush		Mount	ain Brush		
Short Grasses		Tall Gr			
Barley	<u> </u>	Com			
Hay		Oats			
Seeds: Alfalfa		Seeds:	Grass		
Wheat	1	CRP			
Weeds		Ditches	5		

ALTERN	ATIVES TO BURNING (SPECIFY RE	ASON(S) F	OR NON-I	USE):	
T	TECHNICAL ECONOMIC ENVIRONMENTAL PUBLIC INTERESTS				
ENVIRO	NMENTAL		PUBLIC I	NTERESTS	
ADMIN.	BARRIER.			OTHER.	
EMISSIO	N REDUCTION TECHNIQUES:				
Т	TECHNIQUE	ACRES		TECHNIQUE	ACRES
95	Burn Concentrations			High Moisture in Large	
8 \$			ion in	Woody Fuels	
duce Au Burned	Isolate Fuels		npt	Moist Litter and/or Duff	
Reduce Area Burned	Mosaic Burning		Reduce Fuel Consumption	Burn before Precipitation	
~	Alternate Year Burning		2 8	Burn before Large Fuel Cures	
	Mechanical Removal		1	Burn when Green	
ad	Mechanical Processing			Burn Piles or Windrows	
3	Firewood Sales		1 .	Backing Fires	
<u>8</u>	Biomass: Electric Generation		licy	Dry Conditions	
8	Biomass Utilization		- 5	Rapid Mop-Up	
Reduce Fuel Load	Ungulates		99	Residue Moisture	
2	Incorporation into Soil		increase Combustion Efficiency	Air Curtain Incinerators (WAQSR Ch 6, Sec 2 permit required)	
-	Chemical Treatments		a a	Aerial Ignition /	
Reduce Fuel Production			E G	Mass Ignition	
[eg]	Site Conversion		9	Into-the-Wind	
를 잘			8	Striplighting	
2 4	Land Use Change		ijo i	Mobile Field Sanitizer	
> 10	Burn before Litter Fall		1 -	Maintaining Fire Line	
New Fuels				Intensity	
F	Burn before Green-Up			Other (specify)	
VENTILA		Y GOOD	G	OOD FAIR* I	OOR*
CATEGO	RY: * SPECIFY WIND DIRECTI	ON	&	DISTANCE TO POPULATION (MI)	
AIR OUA	LITY MONITORING:				
Wπ	L CONDUCT AND DOCUMENT VISU	AL MONITO	ORING (RE	QUIRED FOR ALL SMP-II PROJECT	TS).
	N TO CONDUCT AMBIENT AIR QUA				,
ш	TYPE OF INSTRUMENT(S)				
T.O	CATION OF INSTRUMENT(S)				
	MANAGEMENT EDUCATION:				
SMUKE I				MATERIAL REVIEWED ON	
		T	RAINING I	PROGRAM COMPLETED ON	
COMMEN	NTS				
This form	ı shall be submitted by January 31	or no late	r than two	weeks prior to ignition.	
SIGNATU	RE			DATE	
If SMP-II Re	gistration Form is submitted electronically, the	electronic sig	nature will be	attributed to the sender.	

SMP-II Registration November 2004 1 of 2 SMP-II Registration November 2004 2 of 2

SMP-II Notification Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-II Notification Form

Notification information may be submitted by phone, or fax or email.

Use of this form is optional.

Burn N	NAME			ID#		
DAILY	BURN INFORMATIO	N:				
	DATE(S)	AREA (ACRES)		PILE VOLUME (CU-FT)		
	(MONTH/DAY/YR)	Max. Possible	Most Likely	Max. Possible	Most Likely	
DAY 1						
DAY 2						
DAY 3						
DAY 4						
DAY 5						
DAY 6						
DAY 7						
VENTII CATEG		T VERY GO		FAIR*	POOR*	
Сомм	ENTS					
SIGNAT	m shall be submitted t URE		•	DATE	gnition.	

SMP-II Notification November 2004 1 of 1

SMP-II Emission Reduction Techniques Waiver Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-II Emission Reduction Technique Waiver Form

BURN NA						
NEARES	r Population					
DAILY B	URN INFORMATION:					
	DATE(S)	AREA (ACRES) May Possible Most Likely		PILE VOL. (CU-FT)		
	(MONTH/DAY/YR)	Max. Possible Most Likely		Max. Possible	Most Likely	
DAY 1						
DAY 2						
DAY 3						
DAY 4						
DAY 5						
DAY 6						
DAY 7						
	REDUCTION TECHNION TRATION THAT A WAI	•				
COMME	NTS					
	ote that approval of th LQD prior to igniting			ue Waiver must be ;	granted by the	
This form	shall be submitted b	y January 31 or no	later than two week	z prior to ignition.		
	nission Reduction Technique	Waiver Form is submitted	electronically, the electron		ted to the sender.	

SMP-II ERT WA		To be Completed by APPROVED		NOT APPROV	ED
APPROVED BY]	DATE	
	1	o be Completed b	y WDEQ Only		

SMP-II ERT Waiver November 2004 1 of 2 SMP-II ERT Waiver November 2004 2 of 2

Smoke Dispersion Waiver Submittal

- Submit waivers to DEQ-AQD during regular business hours (Monday-Friday, 8:00 a.m. to 5:00 p.m.) unless otherwise indicated.
- Smoke Ventilation Categories

Ventilation Category	Knot-Feet
Excellent	>150,000
Very Good	100,000-149,999
Good	60,000-99,999
Fair	40,000-59,999
Poor	<40,000

SMP-II Smoke Dispersion Waiver Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-II Smoke Dispersion Waiver Form

Burn N.	AME			ID#			
NEAREST	POPULATION						
	URN INFORMATION:						
DAILID	DATE(S)		(ACRES)	PILE VOL. (CU-FT)			
1	(MONTH/DAY/YR)	Max. Possible	Most Likely	Max. Possible Most Likel			
DAY 1	(MOTHER PROPERTY	Italia. I OSSIOIC	11205t Ziately	THE TOSSIOL	most Zaacij		
DAY 2							
DAY 3							
DAY 4							
DAY 5							
DAY 6							
DAY 7							
WAIVER	REQUEST:						
VENTILATION CATEGORY STATE THE CIRCUMSTANCES THAT REQUIRE BURNING WHEN THE VENTILATION							
"FAIR"	AND DISTANCE TO	CATEGORY IS "FAIR" AND A POPULATION IS WITHIN 10 MILES OF THE PLANNED					
	POPULATION	BURN PROJECT IN THE DOWNWIND TRAJECTORY. STATE THE WIND DIRECTION					
		AND DISTANCE T					
VENTIL	ATION CATEGORY	STATE THE CIRCUMSTANCES THAT REQUIRE BURNING WHEN THE VENTILATION CATEGORY IS "POOR". STATE THE WIND DIRECTION AND DISTANCE TO					
	"Poor"	POPULATION.	OOK . STATE THE WIN	D DIRECTION AND DIS	IANCE IO		
DEMONE	TRATION THAT A WA		ANTED PROM WA	OCD Ctt 10 Ctc 46	-V2/DVID.		
DEMONS.	IKATION IHATA WA	IVER SHOULD BE G	MANIED FROM WA	(SK CH. 10, SEC. 40)	g)(I)(D)(II).		
	P IDENTIFYING DIURN						
	P SHOWING THE PLAN		T AREA AND POPUL	ATION(S) WITH WINI	DIRECTION		
SMC	OKE MITIGATION PLA	IN .					
COMMEN	VTS						
ъ.					WDFO (OD		
	ote that approval of ti		hspersion Waiver m	nust be granted by th	в WDLQ-AQD		
-	gniting the planned b			_			
	ı shall be submitted t	o the WDEQ-AQD	by 10:00 am one bu		gnition.		
SIGNATU		a to and animal alone and all	In the electronic state of	DATE			
ij SMP-il SM	If SMP-II Smoke Dispersion Waiver Form is submitted electronically, the electronic signature will be attributed to the sender.						

		To be Completed by WI	DEQ Only	
SMP-II SD WAIT	_	APPROVED	NOT APPROV	/ED
CONDITIONS				
APPROVED BY			DATE	
·	1	To be Completed by WI	DEQ Only	

SMP-II Smoke Dispersion Waiver November 2004 1 of 2 SMP-II Smoke Dispersion Waiver November 2004 2 of 2

SMP-II Post-Burn Report Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

SMP-II Post Burn Reporting Form

BURN NAME		ID#						
NOTIFICATION	FIRE NAMES): NAMES METHON: METHON	ME OD	DATE/TIME DATE					
DAILY BURN INFOR						•		
DATE (MONTH/DAY/YR)		ATION TYP EE LIST)	_	LE VOL. (CU-FT)	ACRES	LOADING (TONS/ACRE)	PERCENT CONSUMPTION	
			+					
EMISSION REDUCT		IQUES:				ATE APPROVED		
VEGETATION (SEE LIST			EMIS		CTION TECH EE LIST)	ENIQUE(S)	ACRES	
SMOKE DISPERSION	N:			V	VAIVER - DA	ATE APPROVED		
DATE		VENTIL	ATION C.	ATEGORY			PECIFY	
(MONTH/DAY/YR)	EXCEL- LENT	VERY	GOOD	FAIR*	Poor*	WIND DIRECTION	DIST. TO POPULATION	
	Libra	5000				DIRECTION	TOPOLINION	
							1	

AIR QUALITY MONITORING CONDUCTED VISUAL MO DOCUMENTATION ATI CONDUCTED AMBIENT A DOCUMENTATION ATI CONDUCTED VISIBILITY DOCUMENTATION ATI COMMENTS	ONITORING, IDENTI FACHED AIR QUALITY MONT FACHED Y MONITORING, IDE	TORING, IDENTIFY:		
This form shall be submitted SIGNATURE If SMP-II Post Burn Reporting Form is			DATE	-
If SMP-II Post Burn Reporting Form is	submitted electronically, i	the electronic signature will be at	tributed to the send	er.
		TATION TYPE LIST		
Lodgepole Pine / Fir: little		Ponderosa Pine: oper		Barley
Forest: heavy dead & dow		Ponderosa Pine: close	d canopy Com	
Thinning Unit: not piled wi	th red needles	Juniper		Hay
Logging Slash: mod. acc	umulations	Sagebrush		Oats
Logging Slash: cle	arcut	Mountain Brus	h	Seeds: Alfalfa
Logging Slash Piles	: hand	Short Grasses		Seeds: Grass
Logging Slash Piles: tra	ctor, clean	Tall Grasses		Wheat
Logging Slash Piles: tra		Weeds		CRP
Logging Slash Piles:				Ditches
Bains (so Board		OUCTION TECHNIQUE LIST		- Lasin Fatigue
Reduce Area Burned Burn Concentrations		ce Fuel Load nical Removal		ombustion Efficiency iles or Windrows
Isolate Fuels		ical Processing		acking Fires
Mosaic Burning		wood Sales Sectric Generation		y Conditions
Alternate Year Burning			pid Mop-Up	
		ss Utilization		idue Moisture
Reduce Fuel Production	U	ngulates		rtain Incinerators
Chemical Treatments	Tm	ration into Coil		6, Sec 2 permit required)
Site Conversion	псогро	ration into Soil		ition / Mass Ignition Wind Striplighting
	D-3			
Land Use Change		uel Consumption		e Field Sanitizer
		in Large Woody Fuels	Maintainin	g Fire Line Intensity
New Fuels	Moist Li	tter and/or Duff		

Burn before Precipitation

Burn before Large Fuel Cures Burn when Green Other (specify)

SMP-II Post Burn Reporting November 2004 1 of 2 SMP-II Post Burn Reporting November 2004 2 of 2

New Fuels
Burn before Litter Fall

Burn before Green-Up

Visual Monitoring Log

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Visual Monitoring Log

BURN NAME	ID#						
OBSERVER							
NAME(S)							
SUCCESSIVE OBS	TIME OF		Drine	Hereim on	Dmromovor	RESIDUAL	
DATE(S) (MONTH/DAY/YR)	DAY		PLUME	HEIGHT OF SMOKE	DIRECTION OF SMOKE DISPERSION	SMOKE PRESENT	
(MONTH DAT/TIC)	DAI	Fig. 1	Fig. 2	PLUME	SMOKE DISPERSION	SMOKE I RESERVI	
			2.5				
						 	
						-	
						<u> </u>	
STABLE FIGURE	STE SW A-1 P.C. LEV OF	N HISTORY	CRIFT APART		ELCOUS SMORE CUMULI UPWAR CURREN	GHOW VEHICKLEY AND REES TO GREAT RECEITS AT TYPE CLOUDS ON DOWNWARD TO OLSTY WHICS ISBILLTY	
COMMENTS							

Visual Monitoring November 2004 1 of 1

Photo/Video Log

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Photo / Video Log

PHOTOGRAPHER NAME(S) PHOTO/VIDEO O							
NAME(S) PHOTO / VIDEO OF DATE(S)	BSERVATION TIME OF	ONS:					
PHOTO / VIDEO OF DATE(S)	TIME OF	ONS:					
DATE(S)	TIME OF	ONS:					
DATE(S)	TIME OF	PHO					
(MONTH/DAY/YR)	DAY		OTO		DEO	PHOTOGRAPHER	DIRECTION OF
		Film	Digital	Film	Digital	LOCATION	CAMERA VIEW
$\overline{}$							
$\overline{}$							
			-				
							
$\overline{}$							
COMMENTS							
- CALMENTS							

Photo / Video Log November 2004 1 of 1

Unplanned Fire Event Requirement Checklist greater than 50 acres

- Prior to managing:
 - Review Smoke Management Educational Materials
- When event (suppressed or managed) exceeds 50 acres:
 - Notify the Jurisdictional Fire Authority(ies)
 - Notify population(s) within 10 miles of the burn
 - Conduct and document visual monitoring
 - If required by DEQ-AQD, conduct ambient air quality and/or visibility monitoring
 - If required by DEQ-AQD, modify the unplanned fire event under management
- After event (suppressed or managed) cessation:
 - By December 31, submit a completed post burn reporting form
- NOTE: Volunteer fire organizations' only requirement is the submittal of the post burn reporting form

Unplanned Fire Post Burn Reporting Form

STATE OF WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY – AIR QUALITY DIVISION

Unplanned Fire Post Burn Reporting Form

For events that exceed 50 acres.

CONTACT INFORMATION:	
NAME	PHONE
ADDRESS	FAX
CITY E-MAIL	
STATE ZIP	
AGENCY/COMPANY (IF APPLICABLE)	
VOLUNTEER FIRE ORGANIZATION:	
BURN NAME	ID# To Be Assigned by WDEQ
LOCATION: COUNTY ELEVAT	TON (FEET)
LEGAL: SECTION TOWNSHIP	RANGE DATUM
LATITUDE LONGITUDE	DATUM
UTM: ZONE EAST NOR	TH DATUM
LAND OWNERSHIP: FEDERAL STATE M	MUNICIPAL PRIVATE
SENSITIVE RECEPTORS: POPULATION(S) NONATTAIL	
W/I 10 MI. AREA(S) W/I	10 MI. W/I 30 MI.
PUBLIC INFORMATION:	
JURISDICTIONAL FIRE NAME	DATE/TIME
AUTHORITY(IES): NAME	DATE/TIME
PUBLIC METHOD	DATE
NOTIFICATION: METHOD	DATE
MANAGEMENT RESPONSE: SUPPRESSION MANAG	
* SPECIFY: RESTO	RATION MAINTENANCE
DAILY BURN INFORMATION:	
DATE VEGETATION TYPE	ACRES LOADING
(MONTH/DAY/YR) (SEE LIST)	(TONS/ACRE)

AIR QUALITY MONITORING:					
CONDUCTED VISUAL MONITORING, IDENT	TFY:				
DOCUMENTATION ATTACHED					
CONDUCTED AMBIENT AIR QUALITY MON	monnic Incarrege.				
	HORING, IDENTIFY:				
DOCUMENTATION ATTACHED					
CONDUCTED VISIBILITY MONITORING, IDI	ENTIFY:				
DOCUMENTATION ATTACHED					
SMOKE MANAGEMENT EDUCATION: (FOR U	INPLANNED FIRE LINDER MANAGEME	NT ONLY)			
	ENT EDUCATION MATERIAL REVIEWER				
WDLQ-AQD SMOKE WANAGEM					
	TRAINING PROGRAM COMPLETED	O ON			
COMMENTS					
This form shall be submitted to the WDEQ-AQ	D no later than December 31				
SIGNATURE	DATE				
If Unplanned Fire Post Burn Reporting Form is submitted electr		the sender			
g organistic rate rost burn reporting room is summitted executomically, the executomic signature with or distributed to the senser.					
**					
Lodgepole Pine / Fir: little dead & down	Ponderosa Pine: open canopy	Barley			
Forest: heavy dead & down with brush	Ponderosa Pine: open canopy Ponderosa Pine: closed canopy	Com			
Thinning Unit: not piled with red needles	Juniper	Hav			
Logging Slash: mod. accumulations	Sagebrush	Oats			
Logging Slash: clearcut Mountain Brush Seeds: Alfalfa					
Logging Slash Piles: hand Short Grasses Seeds: Grass					
Logging Slash Piles: tractor, clean Tall Grasses Wheat					
Logging Slash Piles: tractor, dirty Weeds CRP					

Unplanned Fire Post Burn Reporting November 2004 1 of 2 Unplanned Fire Post Burn Reporting November 2004 2 of 2

SMP Implementation for Calendar Year 2014

SMP Registrations

	2014		2013		2012	
Registrations	203		167		172	
	SMP I	SMP II	SMP I	SMP II	SMPI	SMP II
	60	143	35	132	30	142
	29.5%	70.5%	21%	79%	17.4%	82.6%
Total Proposed Area	178,052 acres		57,574.3 acres		74,807.95 Acres	
Proposed Pile Volume	14,909,775 ft. ³		10,823,843 ft. ³		5,107,659 ft. ³	
# of Unplanned Events	18 total with 7 > 50 acres		28		87	
Area of Unplanned Events	3,861 acres		53,374 acres		485,524.96 Acres	

Notifications

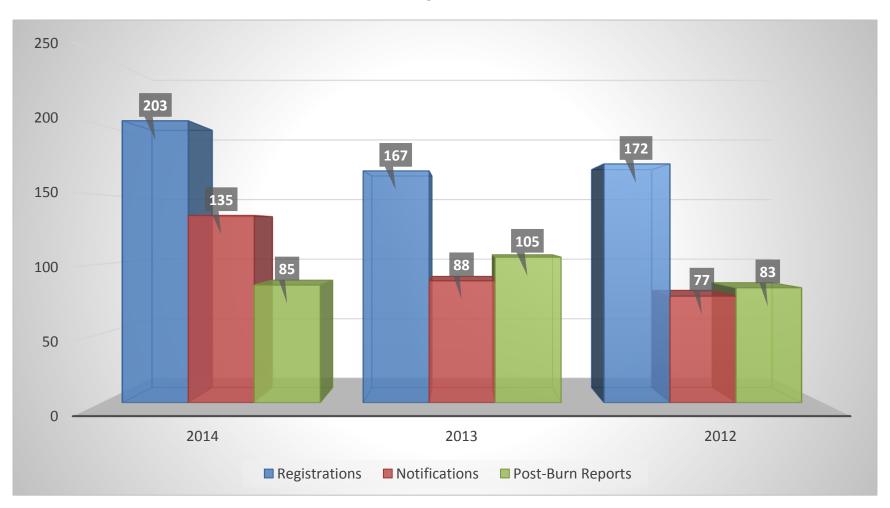
	2014		2013		2012	
Notifications	135		88		77	
Area	17,243.3 Acres		20,792.25 Acres		22,374.95 Acres	
Pile Volume	10,284,824 ft. ³		10,873,929 ft. ³		2,624,240 ft. ³	
	SMPI	SMP II	SMP I	SMP II	SMP I	SMP II
	60	75	35	53		
	44.5%	55.5%	39.7%	60.3%		
Area (acres)	1,191	16,052.3	435.25	20,357		
Pile Volume (cf³)	1,443,604	8,841,220	218,311	10,655,618		

Post Burn Reports

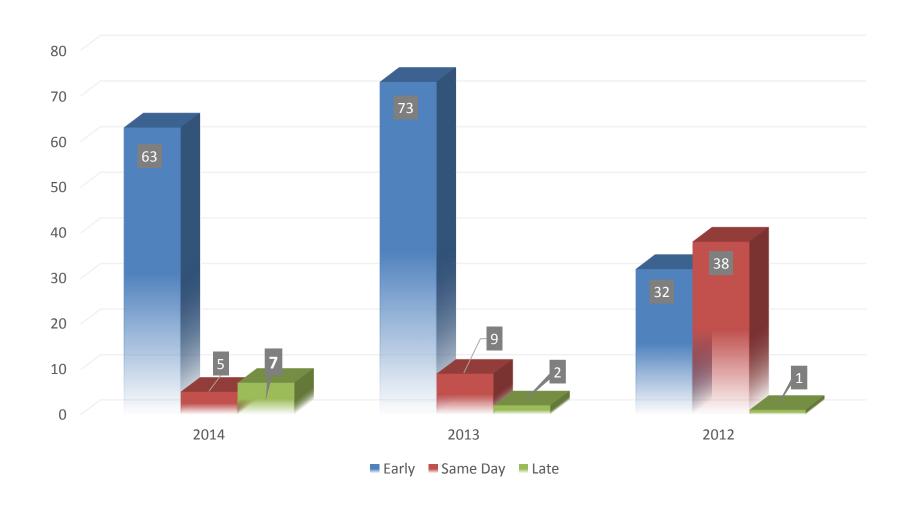
as of 2/3/15

	2014		2013		2012	
Post Burn Reports	85		105		83	
Area	5,840.9 Acres		6,976.1 Acres		20,553.46 Acres	
Pile Volume	8,734,192 ft. ³		7,859,183.202 ft. ³		2,989,251.92 ft. ³	
	SMPI	SMP II	SMP I	SMP II	SMP I	SMP II
	34	51	26	79		
	40%	60%	24.7%	75.3%		
On-Time Reports	64 (75.3%)		57 (54.8%)		68 (81.9%)	
Late Reports	21 (24.7%)		47 (45.2%)		15 (18.1%)	

Registrations, Notifications and Post Burn Reports (as of 2/3/15)



Burn Notification Submittal Time



Comments

- SMP Notifications should be received by DEQ by 10am the business day prior to ignition.
- Several late reports
- Some Post Burn reports and unplanned event reports still needed.
- For SMP-II Registrations, please include: fuel loading and smoke management education. For pile burns, please include pile size, number of piles and pile locations.
- Make sure the dispatcher calling in knows the Burn ID Number
- Long Term Planning Reports needed for districts and offices that meet the threshold

How We Use the Data

- Data from Post-Burn Reports are compiled and then analyzed by the Western Regional Air Partnership-Fire Emissions Tracking System
- WRAP-FETS calculates emissions from the fire data for us.

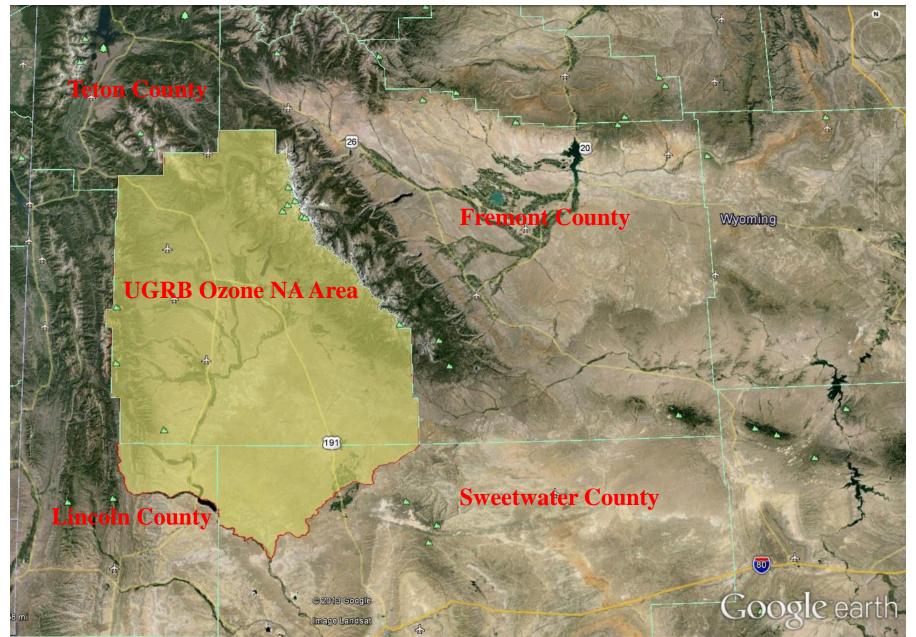
2013 Total Fire Emissions

Total Emissions (Tons)					
CH ₄ (Methane)	30,616.56				
OC (Organic Carbon)	34,714.5				
EC (Elemental Carbon)	4,128.439				
$PM_{2.5}$ (Particulate Matter less than 2.5 μm in diameter)	95,702.83				
PM_{10} (Particulate Matter less than 10 μm in diameter)	174,340.4				
NMHC (Non-Methane Hydrocarbons)	205,079				
NO _x (Nitrogen Oxides)	17,054				
SO ₂ (Sulfur Dioxide)	3,239.713				
CO ₂ (Carbon Dioxide)	687,929.5				
NH ₃ (Ammonia)	7,452.379				
CO (Carbon Monoxide)	11,912,360				

2012 Total Fire Emissions

Total Emissions (Tons)					
CH ₄ (Methane)	67,439.5				
OC (Organic Carbon)	69,183.26				
EC (Elemental Carbon)	8,308.5				
$PM_{2.5}$ (Particulate Matter less than 2.5 μm in diameter)	258,997.0				
PM_{10} (Particulate Matter less than 10 μm in diameter)	199,399.1				
NMHC (Non-Methane Hydrocarbons)	520,784.4				
NO _x (Nitrogen Oxides)	29,619.91				
SO ₂ (Sulfur Dioxide)	6,537.77				
CO ₂ (Carbon Dioxide)	23,512,946				
NH ₃ (Ammonia)	13,977.8				
CO (Carbon Monoxide)	1,495,175				

UGRB Ozone Information



Ozone Non-Attainment Area & SMP

- Upper Green River Basin (UGRB) Ozone
 - Winter Season is from January 1-March 31 every year.
 - Oil and gas operators implement contingency plans when elevated ozone may occur.
 - On days of elevated ozone, the AQD may not allow burns to occur.
 - All SMP-II burn registrations with locations within 10 miles of the Non-Attainment Area need to mark the checkbox on the form.
 - How will the new Ozone Standard affect burning in Wyoming?

Discussion Topics

- What is a population?
- What notification efforts need to be made to a population?
- What is the average size of a burn pile and what is its location?
- Can community piles be moved or located further away from a given population?
- Can large, SMP-II machine piles be separated into 2 or more smaller, SMP-I piles?

Important Websites and Links

- Open Burn and Smoke Management Program
- Wyoming State Forestry Division Fire Information
- USFS Active Fire Mapping Program
- WRAP-FETS
- NIFC Incident Management Report
- NASA Worldview
- Fire Weather
- BlueSky Playground
- <u>InciWeb</u>
- Wyoming SMP Guidance Document
- Wyoming AQD Ambient Monitors

Future Goals

- Improve how DEQ-AQD obtains fire emissions via models
- Development and timeframe for ASIS website as a means for the burner to submit their own registrations, notifications, and reports.

Annual 2016 Meeting

- When: Tuesday, February 16, 2016
- Time: 10:00 a.m. to 12:00 p.m.
- Where: Wind River Conference Room, Cheyenne, Wyoming
- Method: TBD



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